

## **REMARKS**

Claims 6-11 remain pending in this Application.

Claims 6 and 10 were rejected in the Office Action under 35 U.S.C. Section 112. Claims 6-11 were rejected under 35 U.S.C. Section 103. These rejections will be addressed below in the order they were asserted in the Office Action.

### **Drawing Objections**

The objections to the drawings because of certain informalities as stated in Paper 5 of the parent application was reiterated in the Office Action. Paper 5 notes that the Examiner will require correction when necessary. No further response is believed necessary at this time.

### **Section 112 Rejections**

On page 3 of the Office Action, claims 6 and 10 were rejected under Section 112, second paragraph, for use of the terminology "distillation means". Specifically, it was concluded that because there are many different distillation apparatuses, the claims are indefinite for failure to specify which type of distillation is employed.

The specification in general and the discussion on page 6 make it clear that the claimed processes relate to any fractional distillation process and apparatus in which an azeotrope may be formed. Therefore, it is unnecessary to specify a particular type of distillation apparatus or technique in the claims. The specific apparatuses and techniques are well known to those skilled in the art.

Moreover, it is well known that various distillation techniques may be employed in fractional distillations. For example, vacuum technology may be employed in fractional distillation processes to lower the boiling points of stream components and azeotropes during distillation. Therefore, it is not understood why the Office Action proposes that fractional distillation excludes vacuum and other process techniques. Clarification is respectfully requested.

### **Section 103 Rejections**

Pages 3-7 of the Office Action set forth rejections of claims 6-11 under 35 U.S.C. Section 103 based upon U.S. Patent 5,231,222 to Papa in view of U.S. Patent 5,248,427 to Spiske. These references were cited in the preceding Office Actions.

The Office Action asserts that Papa discloses all claim elements except the use of a membrane separation unit to dry the organic phase. However, all of the rejected claims require that a portion of the organic phase **rich in ethyl acetate** from the condensed azeotrope is directed to the **reaction zone** or to the **distillation means as an azeotroping agent**.

The rejections do not address these claim requirements. With respect to directing a portion of the stream rich in ethyl acetate to the reaction zone (claims 6-9), the only organic stream Papa teaches should be added to the reaction zone is recovered unreacted carboxylic acid. See, column 9, lines 48-65. Applying this teaching in the context of the claimed invention would result in recovering and routing acetic acid to the reaction zone. There is no suggestion in Papa to direct a stream of product ethyl acetate to the reaction zone. The Office Action points to no teaching or suggestion of using the product stream of Papa as an azeotroping agent in the reaction zone.

With respect to directing a portion of the product stream to the distillation means (claims 10-11), page 5 of the Office Action discusses directing the organic phase to the **distillation means**. The Office Action concludes that it would be obvious to direct the organic phase to the distillation means of Papa as a further purification step. The deficiency in this conclusion is that Papa fails to teach or suggest the need for such an additional purification step. Indeed Papa provides an elaborate purification scheme incorporating multiple distillations for purifying product thereby teaching away from the need to direct a product stream back to the azeotrope distillation column for additional purification.

For these reasons alone, Papa and Spiske, taken either alone or in combination, fail to render claims 6-11 obvious.

### CONCLUSION

For the foregoing reasons, claims 6-11 are believed to be in condition for allowance. Reconsideration of these claims with issuance of an early Notice of Allowance is earnestly solicited.

It is believed that this submission is fully responsive to the outstanding Office Action. However, should any issues remain unresolved, the Examiner is encouraged to contact the undersigned at the telephone number listed below so that all matters may be expeditiously resolved.

Respectfully Submitted,

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